



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,338	09/26/2003	Masatoshi Yamada	117336	5128

25944 7590 11/29/2007  
OLIFF & BERRIDGE, PLC  
P.O. BOX 320850  
ALEXANDRIA, VA 22320-4850

EXAMINER
----------

MORRISON, THOMAS A

ART UNIT	PAPER NUMBER
----------	--------------

3653

MAIL DATE	DELIVERY MODE
-----------	---------------

11/29/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/670,338

Applicant(s)

YAMADA ET AL.

Examiner

Thomas A. Morrison

Art Unit

3653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,9 and 19-21 is/are rejected.
- 7) ☒ Claim(s) 3-8 and 10-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-2 and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,089,562 (Jang et al.).

Regarding claim 1, Figs. 5-8 show a paper feeding apparatus, comprising:

a paper feed device (Fig. 5) comprising:

a paper loading board (11) to load paper obliquely;

an abutting surface (front inside surface of element 71 located above reference numeral 74) arranged in a lower part of the paper loading board (11), the abutting surface (front inside surface of element 71 located above reference numeral 74) abuts a leading edge of the paper loaded on the paper loading board (11);

a feed roller (20) abuts a surface of the paper to feed the paper to a predetermined direction sheet by sheet; and

a manual feed tray (including 60 and 62) openably/closably attached to the paper loading board (11);

a stopper (11a) located at a lower position when the paper is fed from the manual feed tray, the stopper arranged to move vertically with respect to the abutting surface to

contact the leading edge of the paper and lift up the leading edge of the paper when positioned higher than the abutting surface; and

a stopper drive device (including 40) lowers the stopper below the abutting surface when the manual feed tray is opened for paper insertion.

It is noted that in claim 1 in the recitation “a stopper **located at a lower position when the paper is fed from the manual feed tray**”, the bolded portion of this recitation is a “conditional limitation” that need **not** ever occur. For example, paper may never be fed from the manual feed tray. Similarly, in the recitation “the stopper arranged to move vertically with respect to the abutting surface **to contact the leading edge of the paper and lift up the leading edge of the paper when positioned higher than the abutting surface**”, the bolded portion of this recitation is a “conditional limitation” that need **not** ever occur. For example, the stopper may never be positioned higher than the abutting surface. In addition, in the recitation “a stopper drive device **lowers the stopper below the abutting surface when the manual feed tray is opened for paper insertion**”, the bolded portion of this recitation is a “conditional limitation” that need **not** ever occur. For example, the manual feed tray may never be opened. Rather, it may remain closed. In other words, these bolded portions of these recitations do **not** distinguish claim 1 from the prior art apparatus of U.S. Patent No. 6,089,562 (Jang et al.). Accordingly, all of the limitations of claim 1 are met.

Regarding claim 2, Figs. 5-8 show that the stopper drive device (including 40) comprises a linking mechanism (shaft of element 20 and element 41) arranged between

the manual feed tray (including 60 and 62) and the stopper (11a) to lower the stopper when the manual feed tray is opened for paper insertion.

In claim 2 in the recitation, "wherein the stopper drive device comprises a linking mechanism arranged between the manual feed tray and the stopper **to lower the stopper when the manual feed tray is opened for paper insertion**", the bolded portion of this recitation is a "conditional limitation" that need **not** ever occur. For example, the manual feed tray may never be opened. Rather, it may remain closed. Thus, this portion of this recitation does **not** distinguish claim 2 from the prior art apparatus of U.S. Patent No. 6,089,562 (Jang et al.). Accordingly, all of the limitations of claim 2 are met.

Regarding claim 19, Figs. 5-8 show that the stopper (11a) raises and lowers each time the paper is fed from the paper loading board (11).

Regarding claim 20, Figs. 4-8 show that the stopper drive device (including 40) rotates to move the stopper (11a) vertically with respect to the abutting surface (front inside surface of element 71 located above reference numeral 74).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,089,562 (Jang et al.) in view of U.S. Patent No. 4,905,046 Tsunoi et al.)

Regarding claim 9, Figs. 5-8 of Jang et al. show an image formation apparatus (Abstract of Jang et al.), comprising:

a paper feeding apparatus including

a paper feed device (Fig. 5) comprising:

a paper loading board (11) to load paper obliquely;

an abutting surface (front inside surface of element 71 located above reference numeral 74) arranged in a lower part of the paper loading board (11), the abutting surface (front inside surface of element 71 located above reference numeral 74) abuts a leading edge of the paper loaded on the paper loading board (11);

a feed roller (20) abuts a surface of the paper to feed the paper to a predetermined direction sheet by sheet; and

a manual feed tray (including 60 and 62) openably/closably attached to the paper loading board (11);

a stopper (11a) located at a lower position when the paper is fed from the manual feed tray, the stopper arranged to move vertically with respect to the abutting surface to contact the leading edge of the paper and lift up the leading edge of the paper when positioned higher than the abutting surface; and

a stopper drive device (including 40) lowers the stopper below the abutting surface when the manual feed tray is opened for paper insertion;

an image formation device (Abstract) which forms an image on the paper;

a paper transfer device (including 30) transfers paper fed from the paper feeding apparatus to the image formation device.

It is noted that in claim 9 in the recitation “a stopper **located at a lower position when the paper is fed from the manual feed tray**”, the bolded portion of this recitation is a “conditional limitation” that need **not** ever occur. For example, paper may never be fed from the manual feed tray. Similarly, in the recitation “the stopper arranged to move vertically with respect to the abutting surface **to contact the leading edge of the paper and lift up the leading edge of the paper when positioned higher than the abutting surface**”, the bolded portion of this recitation is a “conditional limitation” that need **not** ever occur. For example, the stopper may never be positioned higher than the abutting surface. In addition, in the recitation “a stopper drive device **lowers the stopper below the abutting surface when the manual feed tray is opened for paper insertion**”, the bolded portion of this recitation is a “conditional limitation” that need **not** ever occur. For example, the manual feed tray may never be opened. Rather, it may remain closed. In

other words, these bolded portions of these recitations do **not** distinguish claim 9 from the prior art apparatus of U.S. Patent No. 6,089,562 (Jang et al.).

Regarding the control device limitation, Jang et al. discloses a feed control device (i.e., whatever controls the driving of the paper feeding apparatus of Figs. 5-8 of Jang et al.) drives the paper feeding apparatus to feed the paper on the paper loading board to the paper transfer device when a command to select an automatic paper feed is externally input to select a paper feed from the paper loading board, subsequently drives the paper transfer device to transfer the paper fed from the paper feeding apparatus to the image formation device when the paper detection device detects the presence of paper, and drives the paper transfer device to transfer paper inserted from the manual feed tray to the image formation device.

More specifically, with regard to the recitation, “a feed control device **drives the paper feeding apparatus to feed the paper on the paper loading board to the paper transfer device when a command to select an automatic paper feed is externally input to select a paper feed from the paper loading board**”, the bolded portion of this recitation is a “conditional limitation” that need **not** ever occur. For example, a command may never be externally input. Similarly, with regard to the recitation “subsequently **drives the paper transfer device to transfer the paper fed from the paper feeding apparatus to the image formation device when the paper detection device detects the presence of paper**”, the bolded portion of this recitation is a “conditional limitation” that need **not** ever occur. For example, the presence of paper may never be detected. Thus, these bolded portions of these recitations do not



distinguish claim 9 from the prior art apparatus of U.S. Patent No. 6,089,562 (Jang et al.). Lastly, it is the examiner's position that the feed control device (i.e., whatever controls the driving of the paper feeding apparatus of Figs. 5-8 of Jang et al.) drives the paper transfer device (including 30) to transfer paper inserted from the manual feed tray (including 60 and 62) to the image formation device (Abstract), as claimed. See e.g., column 6, lines 31-36.

The Jang et al. patent meets the limitations of claim 9, except that it does not specifically disclose a paper detection device, as claimed.

The Tsunoi et al. patent discloses that it is well known to provide an image formation apparatus (Fig. 2) with a paper detection device (28) arranged in a paper transfer device (including 22 and unnumbered guides on both sides of element 22) for the purpose of detecting an abnormality (e.g., a jam) in a recording paper transport operation. See e.g., Figs. 4-5 and column 4, lines 4-43 of Tsunoi et al. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the paper transfer device (including 30) of the Jang et al. apparatus with a sensor for the purpose of detecting a jam in a recording paper transport operation, as taught by Tsunoi et al. Thus, all of the limitations of claim 9 are met by this combination of references.

Regarding claim 21, Figs. 4-8 show that the stopper drive device (including 40) rotates to move the stopper (11a) vertically with respect to the abutting surface (front inside surface of element 71 located above reference numeral 74).

***Allowable Subject Matter***

3. Claims 3-8 and 10-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

4. Applicant's arguments filed 9/17/2007 have been fully considered but they are not persuasive.

**Applicants argue**

Jang cannot reasonably be considered to teach "a stopper located at a lower position when the paper is fed from the manual feed tray, the stopper arranged to move vertically with respect to the abutting surface to contact the leading edge of the paper and lift up the leading edge of the paper when positioned higher than the abutting surface," as recited in independent claims 1 and 9.

The Office Action asserts that the projection 11a of Jang, which allegedly corresponds to the claimed stopper, is located at a lower position when the paper is fed from the feeder 60 and the boss 62, and allegedly arranged to move vertically with respect to the inside surface of the finger 71 to lift up the bottom end of the paper when positioned higher than the inside surface of the finger 71. Despite these allegations, the projection 11a of Jang does not contact the leading edge of the paper when the projection 11a is caused to move vertically.

Jang merely discloses a knock-up plate 11, on which recording paper is stacked, and a projection 11a formed at a side of the knock-up plate 11. See Jang, for example, col. 4, lines 19 and 20, and lines 32-36.

Importantly, the projection 11a of Jang, which is formed at the side of the knock-up plate 11, only contacts a lower surface of the pressure bar 41 of Jang. No objective evidence of record indicates that the projection 11a of Jang is in contact with any other object, i.e., a leading edge of the recording paper of Jang.

In response, claims 1 and 9 both recite, "a stopper located at a lower position when the paper is fed from the manual feed tray, the stopper arranged to move

vertically with respect to the abutting surface to contact the leading edge of the paper and lift up the leading edge of the paper when positioned higher than the abutting surface". This recitation contains several "conditional limitations" which need **not** ever occur. Thus, not every word of this recitation distinguishes claims 1 and 9 from the prior art apparatus of U.S. Patent No. 6,089,562 (Jang et al.).

More specifically, it is noted that in claims 1 and 9 in the recitation "a stopper **located at a lower position when the paper is fed from the manual feed tray**", the bolded portion of this recitation is a "conditional limitation" that need **not** ever occur. For example, paper may never be fed from the manual feed tray. Similarly, in the recitation "the stopper arranged to move vertically with respect to the abutting surface **to contact the leading edge of the paper and lift up the leading edge of the paper when positioned higher than the abutting surface**", the bolded portion of this recitation is a "conditional limitation" that need **not** ever occur. For example, the stopper may never be positioned higher than the abutting surface. In other words, these bolded portions of these recitations do **not** distinguish claims 1 and 9 from the prior art apparatus of U.S. Patent No. 6,089,562 (Jang et al.). All of the non-bolded portions of these recitations are disclosed by Jang et al. For example, element 11a can be considered a stopper, because it acts as a stopper when in contact with element 41 to prevent (i.e., stop) a spring 12 from pushing element 11 back up to the topmost position of element 11, as best shown in Fig. 3 of Jang et al. It is noted that stopper 11a is **not required to be located at a lower position**, e.g., if paper never gets fed from the manual feed tray. Moreover, stopper 11a is **not required to contact the leading edge of the paper and**

**lift up the leading edge of the paper**, e.g., if stopper 11a never gets positioned higher than the abutting surface.

Next applicants argue

Also, Tsunoi fails to remedy the above-noted deficiencies of Jang. Tsunoi is merely relied upon by the Office Action for its alleged teaching of a paper detection device.

In response, Tsunoi is only relied upon in claim 9 to disclose a paper detection device, as claimed. Jang et al. is relied upon to disclose all of the other limitations of claims 1 and 9. Jang et al. meets all of the other limitations of claims 1 and 9, as explained in the rejections of claims 1 and 9 above.

In addition, applicants argue

New claims 20 and 21 depend from claims 1 and 9, respectively. Applicants submit that these claims are also not taught by Jang, for at least the respective dependence of these claims directly on allowable independent claims 1 and 9, respectively.

In response, Jang by itself meets all of the limitations of claim 1 as explained in the rejection of claim 1 above. Also, Jang et al. in view of Tsunoi discloses all of the limitations of claim 9 as explained in the rejection of claim 9 above.

Finally, applicants argue

Furthermore, Jang does teach the separately patentable subject matter that each of claims 20 and 21 recite. That is, Jang does not teach "wherein the stopper drive device rotates to move the stopper vertically with respect to the abutting surface." In contrast, the projection 11a of Jang, which allegedly corresponds to the claimed stopper, moves vertically along a single axis. See Jang, for example, Figs. 6-8.

In response, claims 20 and 21 both recite, "wherein the stopper drive device rotates to move the stopper vertically with respect to the abutting surface." Figs. 4-8 of Jang et al. show that the stopper drive device (including 40) rotates to move the stopper (11a) vertically with respect to the abutting surface (front inside surface of element 71 located above reference numeral 74). More specifically, Figs. 4-8 of Jang et al. show that the stopper drive device (including 40) has a pressure bar (41) that rotates around and periodically contacts the stopper (11a) to push it vertically downward with respect to the position of the abutting surface (front inside surface of element 71 located above reference numeral 74). Thus, all of the limitations of claims 20 and 21 are met.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on (571) 272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

11/23/2007

  
PATRICK MACKEY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600